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RECORD OF ORAL HEARING

U.S. PATENT AND TRADEMARK OFFICE

BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES

Ex parte KLAUS SCHULTES, MICHAEL WICKER, PETER KEMPF, WERNER HOSS, KLAUS ALBRECHT, URSULA GOLCHERT and STEFAN NAU

Appeal No. 2010-005237
Application No. 10/575929
Technology Center 1700

Oral Hearing Held: March 10, 2011

Before BRADLEY R. GARRIS, PETER F. KRATZ and MARK NAGUMO, *Administrative Patent Judges.*

APPEARANCES:

ON BEHALF OF THE APPELLANT:

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The above-entitled matter came on for hearing on Thursday, March 10, 2011 commencing at 1:55 p.m., at the U.S. Patent and Trademark Office, 600 Dulany Street, Alexandria, Virginia, before Victoria L. Wilson, Notary Public.

P R O C E E D I N G S

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THE USHER: Calendar number 31. Appeal number 2010-5237. Ms. Wilbur.

JUDGE GARRIS: Thank you.

MS. WILBUR: Thank you.

JUDGE GARRIS: Good afternoon, Ms. Wilbur.

MS. WILBUR: Good afternoon.

JUDGE GARRIS: Would you happen to have a business card you could give to our reporter?

MS. WILBUR: Yes, I do.

JUDGE GARRIS: That would be helpful. Thank you.

Ms. Wilbur, as you know, you have about 20 minutes to present your case. Please begin when you are ready.

MS. WILBUR: Okay. May it please the Board, I am here to discuss application 10/575929, Appeal Number 2010-5237. Due to the time constraint, as you have mentioned, I'm only going to focus my remarks on independent claim 24 and the rejections thereof and I'll comment on any dependent claims as becomes necessary during the discussion or questions. So, the first rejection I would like to talk about is the obviousness double patenting rejection which does include independent claim 24. First, Applicant -- Appellants would like to submit that the claimed subject matter between the two applications is, in fact, different. Component A of the invention --

JUDGE KRATZ: Can I ask you a quick question before you begin your arguments?

MS. WILBUR: Sure.

JUDGE KRATZ: There was -- the other application involved was -- had a request for continued application filed and there was an amendment after final that would be entered once that was filed.

MS. WILBUR: There was a request for what? I'm sorry. I couldn't hear you.

JUDGE KRATZ: The application over which the obviousness double patenting rejection is involved with, the claims in that application were subject to amendment subsequent to the Briefing in this Appeal.

MS. WILBUR: Okay.

JUDGE KRATZ: And are you aware of that, one; and, two, does it make any difference in the arguments, the change in those claims?

MS. WILBUR: I was not aware of the amendment. I am filling in sort of last minute on this case, so I am not aware of the most recent amendment on the '946 application.

However, I could imagine, though, that the difference most likely still applies because I can't imagine that the claims were amended to be even closer related to the claimed invention only because I know the -- there was one attorney working on both cases. So that would be my guess. I have not seen those claims though.

The -- so I will address, I guess, then, the obviousness double patenting rejection as, you know, was put forth by the Examiner in the last office action and has been addressed in the Appeal Brief and the Examiner's answer.

JUDGE NAGUMO: What is the difference, if we can jump to that?

MS. WILBUR: Okay. Sure. Yes. So component A of claim 24, which is the polymer mixture -- the polymer matrix, consists essentially of one or more of four things -- part one, two or three or four. Now, the first thing is that the '946 application is completely silent on three and four, which are the methacrylimide copolymers. Okay. So, now we have to move to part one and two.

Well, with respect to part one and two, those components are defined by their vicat softening point. Now, the Examiner has correlated those to any one of polymers A, C and D in the '946 application; however, those are only characterized by their solution viscosities of 25 degrees C. And since Vicat softening point and solution viscosities are not the same properties and they are actually not related, then we would say that the '946 application also does not disclose one or two, the methacrylate polymers that are defined by their vicat softening point.

Furthermore, the last three properties that are recited in claim 24 are nowhere near found in the claims of the '946 application.

JUDGE GARRIS: Hold on just a moment. I may have missed this.

MS. WILBUR: Sure.

JUDGE GARRIS: Did you say that the co-pending application claims do not include a polymer matrix with any one of these three items that are recited in claim 24?

MS. WILBUR: The one, two, three and four of component A, is that what we are talking about?

JUDGE GARRIS: Yes. Yes, I am.

MS. WILBUR: Correct. And the reason for that is that the '946 application claims do not recite methacrylimide co-polymers.

JUDGE GARRIS: Okay.

MS. WILBUR: That would be three and four.

JUDGE GARRIS: Okay. I got you.

MS. WILBUR: Okay.

JUDGE NAGUMO: Are you saying that Vicat softening points and the properties that are the solution viscosities are mutually exclusive --

MS. WILBUR: Well, they are -- they are --

JUDGE NAGUMO: -- or that they just --

MS. WILBUR: -- they are not the same and they are not performed in the same way. The -- those values are not identified in the same way.

And I would bring your attention to the Reply Brief where a description of the difference between those two values is provided starting at the bottom of page six where it -- it explains that the softening point of a given polymer is determined by the application of thermal energy to a specimen. At a certain temperature, the polymer sample being heated and softened in this value is observed.

On the other hand, the solution viscosity of a polymer is -- is determined by dissolving a polymer sample in a specified solvent, for instance, chloroform, and then measuring the viscosity of the solution at a specific temperature.

JUDGE NAGUMO: Yes. Well, they both relate in some way to molecular weight, for example. Now, they are not necessarily the same --

MS. WILBUR: Right.

JUDGE NAGUMO: -- as the polymers certainly aren't -- don't cover identical molecular weight ranges.

MS. WILBUR: Uh-huh.

JUDGE NAGUMO: My question would be how large is the overlap. If it's incidental, your case is very, very strong. If there is a large area -- if there is a large class of -- of methacrylate co-polymers, for example, that have appropriate solution viscosities and appropriate vicat softening points, even though they are not identical, your case becomes relatively weak. So how large is the overlap would be one way to ask.

BY MS. WILBUR: I couldn't put a figure on that, like a percentage figure, but I would say -- and I would repeat that the method -- the method for determining the two values is so different that we don't -- that the Appellants don't believe that one skilled in the art could reach a conclusion that the values expected for one of those set of properties based on a certain technique could be obtained on the same sample for the other technique, the Vicat softening point or the solution viscosity being the two techniques.

JUDGE GARRIS: You're saying the claim is different with respect to the matrix in part A and also the characteristics recited at the end of the claim?

MS. WILBUR: Yes. So at the very end of claim 24, which is not specific only to the matrix but to the combination of components A, B and C -- the matrix, the impact modifier and the plastic particles -- so our -- the resulting polymer mixture, which is what claim 24 is, results in three properties -- a roughness value, a glass, and a Vicat softening point in and of itself which is different than the Vicat softening points of the individual component A.

And what I was pointing out is that the '946 application does not claim these, recite these or indicate what the -- those would be for our claimed polymer mixture.

And just as a further note, the Examiner has included the Lichtenstein reference as a secondary component to this ODP rejection and we wish to note that this is merely for the idea of including light scattering particles which are disclosed in Lichtenstein which the Examiner has cited to in light of claimed component C from 1 to 15 weight percent of plastic particles.

So, again, Appellants submit that the claimed subject matter is, in fact, different, that the Vicat softening point and solution viscosities cannot be equated as the Examiner has done and Appellants respectfully request reversal of that rejection.

JUDGE GARRIS: Any questions?

JUDGE KRATZ: No questions.

JUDGE GARRIS: Any questions?

Why don't you go on to your prior art rejection.

MS. WILBUR: Sure. So the first prior art rejection that includes claim 24 is over Kress and Lichtenstein for obviousness. First thing I would like to point out is that Kress requires a component A which is a matrix thermoplastic polycarbonate material. Appellants' claims do not contain such a polycarbonate matrix material.

JUDGE NAGUMO: What is it about "consisting essentially of" that necessarily excludes polycarbonate?

MS. WILBUR: Well, "consisting essentially of," as you know, means that the only things recited -- the only things that can be included are those that are

recited in the claim and those that do not materially affect the basic and novel properties of the component, the component being the polymer matrix. And Appellants submit that one skilled in the art would readily know that a polycarbonate that are known to have extremely high Vicat softening points would, in fact, materially affect the basic and novel properties of the claimed invention.

JUDGE NAGUMO: Do we have that in the record?

MS. WILBUR: Yes. Reply Brief --

JUDGE KRATZ: Was Reply Brief entered?

MS. WILBUR: The first Reply Brief was not, however, the second was.

JUDGE KRATZ: What was the date on that one?

MS. WILBUR: The date of the second Reply Brief, it was filed on April 16th, 2010.

JUDGE KRATZ: Okay.

MS. WILBUR: And then we received a subsequent notice from the office that it was entered and considered and application forwarded to the Board. Back to your question -- Reply Brief -- it really starts at the very first comments at the bottom of page two but then more specifically on page three.

JUDGE NAGUMO: Well, if -- the reason I ask here is if PCs are known to have high Vicat softening points, then at the bottom of claim 24, there is a limitation of Vicat softening point has to be at least 90 degrees C. So if I have a component that itself has a very high softening point and if I make the jump that, well, whatever it's in is likely going to have a high softening point, that doesn't seem to necessarily hurt here. I mean I might have a very, very high softening point but that's not excluded by the claims.

So I don't see that that excludes -- there is no limitation on the matrix that necessarily excludes that. I've got a requirement that the PMMA, for example, has to have a certain Vicat but, again, that's minimum Vicat softening point.

MS. WILBUR: Right, the polymer matrix consists essentially of one or two or three or four and the one or two are defined by their Vicat softening point. I -- I think the answer to your question there is that by -- by the fact that the polycarbonate material, thermoplastic polycarbonate material would have such an elevated Vicat softening point, and as the claims, you know, themselves indicate, the Vicat softening point of not only the components within the polymer matrix component A but the resulting polymer mixture as a whole at the bottom of the claim, you know, those are -- at least the Vicat softening point is one of the properties that's -- would -- basically, would be a material property to the claimed invention.

JUDGE NAGUMO: But they are not going in the right way for your argument. If PCs had a very low Vicat softening point, I could -- I could buy off on that, I think, right away because, well, I'm going to throw in something that was really soft and, so, we have got some real problems here. I'm not sure we have this problem with PC. Maybe we should move on, having --

MS. WILBUR: I think we can move on to component B of claim 24, if you wish.

Also, actually, perhaps before we move on to part B of claim 24 or part B of the Kress reference, I would just point out that dependent claim 47 is a slightly narrower version of claim 24 and that not only is the polymer matrix A limited to the "consisting essentially of" or that the polymer mixture as a whole is

limited to "consisting essentially of," not just component A like claim 24, and I don't know if that addresses at all your comment but I wanted to point that out.

JUDGE NAGUMO: I think we should move on.

MS. WILBUR: Okay. So moving on to the Kress reference, another difference between the present invention and the Kress reference is that Kress also includes a component B, which is a rubbery material that is formed by graft polymerizing a mixture onto a rubber. No such graph copolymer system exists in the present invention.

Also, component B of Kress, the rubbery material graph polymerized onto another rubber is not the impact modifier of the present claims, which is recited as an impact modifier based on cross link polymethacrylates and which is not covalently bonded to the polymatrix A.

It appears in the office action that the Examiner may have equated those two. We disagree, obviously.

JUDGE NAGUMO: So your position is, then, that Kress does not disclose cross link polyacrylate -- polymethacrylate impact modifier?

MS. WILBUR: Appellants' position is that the -- the Examiner's equation of Kress' component B to Appellants' claimed impact modifier is incorrect.

JUDGE NAGUMO: Well, is it because there is not a cross link PMMA?

MS. WILBUR: That is also not covalently bonded to the polymer matrix A? I believe not. The -- and the Lichtenstein reference also does not, so that would not satisfy that prong either. The Lichtenstein reference again only comes in for component C, which is the plastic particles.

So, in light of the Appellants' belief that the "consisting essentially of" for component A would exclude the polycarbonate of Kress, Kress' component B not reading on the claimed component B --

JUDGE KRATZ: Is there any -- is there any impact of that graft copolymer of the other reference the Examiner is relying on impacting the properties that you are claiming at all? Would that change it, if you were using that as the impact modifier?

MS. WILBUR: If you were to instead use the component B of Kress?

JUDGE KRATZ: Yes.

MS. WILBUR: I couldn't comment. I -- I don't know.

So, for those reasons, Applicants do submit that the polymer matrix lists limited by the "consisting essentially of" language, as well as the lack of Kress and Lichtenstein's disclosure of claimed component B, that the obviousness rejection over Kress and Lichtenstein should be reversed.

Now moving on to the obviousness rejection over three different references, however Lichtenstein is the third, Albrecht, Suetterlin and Lichtenstein is the combination and it also is put forth over claim 24, the first I'll just put out there that it appears that the office is using Albrecht for claimed component A, the Suetterlin reference for the notions of claimed component B and again Lichtenstein for claimed component C. Lichtenstein will always be component C.

And right at the outset, Appellants submit that Albrecht and Suetterlin are non-combinable. The methods taught by Albrecht and Suetterlin are quite different. Albrecht teaches that the presence of co-monomer units of maleic

anhydride and styrenic monomer in a methylmethacrylate -- methacrylate polymer to improve stress cracking.

On the other hand, Suetterlin requires the use of a three-tiered core shell methacrylate-based polymer as an additive to the methacrylate polymer as the means for improving stress-resisting characteristics of the copolymer. So two very different techniques for perhaps similar polymers in the sense that they are both methacrylate based.

However, Appellants submit that one skilled in the art would not be motivated by Albrecht to completely change the method taught therein to a different methacrylate polymer and modify its properties by including the core shell polymer as an additive as taught by Suetterlin mostly because those -- those properties which Suetterlin is trying to improve are already improved by the method of Albrecht, so why would one skilled in the art make that modification.

JUDGE NAGUMO: Are Appellants arguing that there wouldn't have been an expectation that adding impact modifying particles as taught by Suetterlin would -- would have that effect in Albrecht's compositions? It doesn't seem necessarily like it wouldn't work. As you say, they are already doing it another way but --

MS. WILBUR: Right, they are already doing it. Right.

JUDGE NAGUMO: -- you know, one way or another, yeah, why wouldn't you -- you want to improve the impact strength --

MS. WILBUR: Right.

JUDGE NAGUMO: -- so you would use whatever is available unless there were some really good reason not to. I mean that's always out there.

MS. WILBUR: I understand, yeah.
JUDGE KRATZ: What were you saying --
JUDGE NAGUMO: I don't see that it's necessarily --
MS. WILBUR: I guess I would say that, you know, Albrecht is one -- one type of method for improving the stress cracking and Suetterlin is a completely different method of improving stress cracking and, therefore, if -- you know, I would then ask, well, where is the motivation to start mixing and matching when you have one method which is doing the desired goal of relieving stress cracking and so is the other method?
So if Suetterlin was combined with Albrecht, would there be an advantage? I don't know. Albrecht is already improving that particular property so why would one even -- why would one skilled in the art consider looking to Suetterlin for, what, further improving the property? That I couldn't comment on.
But I would say that one skilled in the art wouldn't look to a reference that's doing the same thing that the primary reference has already done.
JUDGE KRATZ: Now, that primary reference to Albrecht you are saying because they were using those -- making -- they were making a polymer with those methac -- methylmethacrylate, the styrene and the maleic anhydride, that was the problem that you said they were already improved with those three ingredients.
MS. WILBUR: Right. When you read the beginning of Albrecht, you see that, you know, their goal is, in fact, to improve the stress cracking and they have done so --
JUDGE KRATZ: Right.

MS. WILBUR: -- by their particular method which includes those components, yes.

JUDGE KRATZ: If the Examiner was using that reference just for the product of that method, though, okay, wouldn't that correspond to what you have in your dependent claim 28 for your first former matrix ingredient of the -- of the mixture that you are claiming? Because you are not claiming a method, you are claiming a mixture.

MS. WILBUR: Right. Claim 28 where polymer matrix A is defined as consisting essentially of methyl methacrylate, styrene and maleic anhydride is the notion of the combination of those three components in Albrecht.

JUDGE KRATZ: In other words, your argument that those three would have militated against the combination with the -- with the impact modifier somehow, at least in the prior art is what you are saying, there is no reason to improve it with the impact modifier of the secondary reference.

MS. WILBUR: Right, with the particular modifiers here.

JUDGE KRATZ: Right, the particular modifier, the secondary reference.

MS. WILBUR: Right, which is very, very unique, a three-tiered core shell polymer. Yes, that's what I am saying.

JUDGE KRATZ: Okay.

JUDGE GARRIS: You really don't have a great deal of time left, though I -- I think we have asked a lot of questions so I'm giving you some extra minutes. However, you should go to the last rejection.

MS. WILBUR: Yes. That one should be really quick because the only difference between Albrecht, Suetterlin and Lichtenstein in the last rejection

that applies to claim 24 is sort of the swap for Albrecht for the Rhein reference.

So, the difference being the Rhein reference, I'll just talk about Rhein quickly. Rhein discloses a continuous process of producing a thermoplastic molding compound by polymerizing a mixture of methylmethacrylate, optionally lower alkyd acrylates in the presence of a mercaptan change transfer agent and a radical initiator.

That is pretty much the extent of the disclosure of Rhein. Rhein provides absolutely no teaching or suggestion of the claimed mixture. There is no teaching of mixing any one of the four specific types of the copolymer mixtures one, two, three or four as recited in claim 24, never mind with an impact modifier or plastic particles.

So, Appellants really believe that Rhein is completely off the mark.

JUDGE GARRIS: Judge Kratz, any questions?

JUDGE KRATZ: No further questions.

JUDGE GARRIS: Judge Nagumo?

JUDGE NAGUMO: No, thank you.

JUDGE GARRIS: Thank you very much.

MS. WILBUR: Thanks.

JUDGE GARRIS: Hope we can settle this case.

We ask our reporter did you have any questions?

COURT REPORTER: No, thank you.

(Whereupon, the proceedings at 2:19 p.m. were concluded.)